

**Abstract:**

A data compression apparatus receives a digital information signal, determines a probability signal from the digital information signal and at least one previously determined value of the probability signal, entropy encodes the digital information signal into a compressed digital information signal, in response to the probability signal, and transmits or records the compressed signal. Also, a data expansion apparatus receives the compressed signal and entropy decodes the compressed signal into a expanded replica of the digital information signal, in response to a second probability signal determined from the replica and at least one previously determined value of the second probability signal. Thus, complex division operations can be avoided.